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L1 3289 S MCP OR (MONOCYTE (1W) CHEMOTACTIC (1W) PROTEIN)
L2 196 S L1 (P) ANTAGONIST?
L3 14 S L2 (P) TRUNCAT?
L4 630 S (MONOCYTE (1W) CHEMOTACTIC (1W) PROTEIN)
L5 102 S L4 AND ANTAGONIST
L6 4 S L5 AND TRUNCAT?

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L7 245 S L5
L8 7 S L6

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L3 ANSWER 4 OF 14 MEDLINE

AB Chemokines are important mediators in infection and inflammation. The **monocyte chemotactic proteins** (**MCPs**) form a subclass of structurally related C-C chemokines. **MCPs** select specific target cells due to binding to a distinct set of chemokine receptors. Recombinant and synthetic **MCP**-1 variants have been shown to function as chemokine **antagonists**. In this study, posttranslationally modified immunoreactive **MCP**-1 and **MCP**-2 were isolated from mononuclear cells. Natural forms of **MCP**-1 and **MCP**-2 were biochemically identified by Edman degradation and mass spectrometry and functionally characterized in chemotaxis and Ca2+-mobilization assays. Glycosylated **MCP**-1 (12 and 13.5 kDa) was found to be two- to threefold less chemotactic for monocytes and THP-1 cells than nonglycosylated **MCP**-1 (10 kDa). Natural, NH2-terminally **truncated** **MCP**-1(5-76) and **MCP**-1(6-76) were practically devoid of bioactivity, whereas COOH-terminally processed **MCP**-1(1-69) fully retained its chemotactic and Ca2+-inducing capacity. The capability of naturally modified **MCP**-1 forms to desensitize the Ca2+ response induced by intact **MCP**-1 in THP-1 cells correlated with their agonistic potency. In contrast, naturally modified **MCP**-2(6-76) was devoid of activity, but could completely block the chemotactic effect of intact **MCP**-2 as well as that of **MCP**-1, **MCP**-3, and RANTES. Carboxyl-terminally processed **MCP**-2(1-74) did retain its chemotactic potency. Although comparable as a chemoattractant, natural intact **MCP**-2 was found to be 10-fold less potent than **MCP**-1 in inducing an intracellular Ca2+ increase. It can be concluded that under physiologic or pathologic conditions, posttranslational modification affects chemokine potency and that natural **MCP**-2(6-76) is a functional C-C chemokine inhibitor that might be useful as an inhibitor of inflammation.

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DOCUMENT NUMBER:	98217196 PubMed ID: 9558113
TITLE:	Posttranslational modifications affect the activity of the human monocyte chemotactic proteins MCP-1 and MCP-2: identification of MCP-2(6-76) as a natural chemokine inhibitor.
AUTHOR:	Proost P; Struyf S; Couvreur M; Lenaerts J P; Conings R; Menten P; Verhaert P; Wuyts A; Van Damme J
CORPORATE SOURCE:	Rega Institute for Medical Research, Laboratory of Molecular Immunology, University of Leuven, Belgium.
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